

CNC mdl

Engraver ver. 01a

GUIDE

Drawing and CAD conversion file in XYZ
Preparation of G-Code file



In order to use the machine tools is essential the employ of the personal protective equipment and is important to pay close attention and vigilance.

CAD Drawing

The CNC mdl – Engraver software is able to recover the data of a drawing to engrave made with any CAD software that can generate a .DXF file and automatically create the related G-Code.

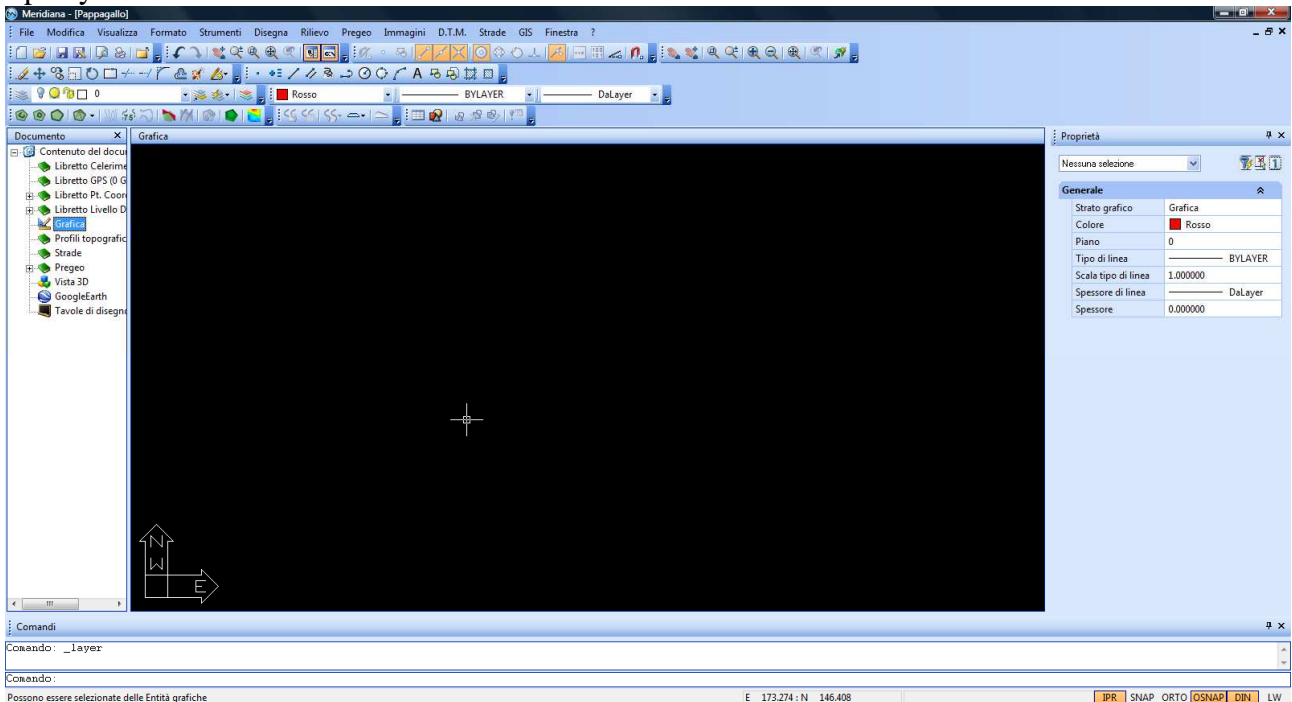
The software does not consider arcs or circles.

To facilitate the design, you can use a graphics tablet. From this, superimposing any drawing, it is easy to trace the polylines going over the edges of our base picture.

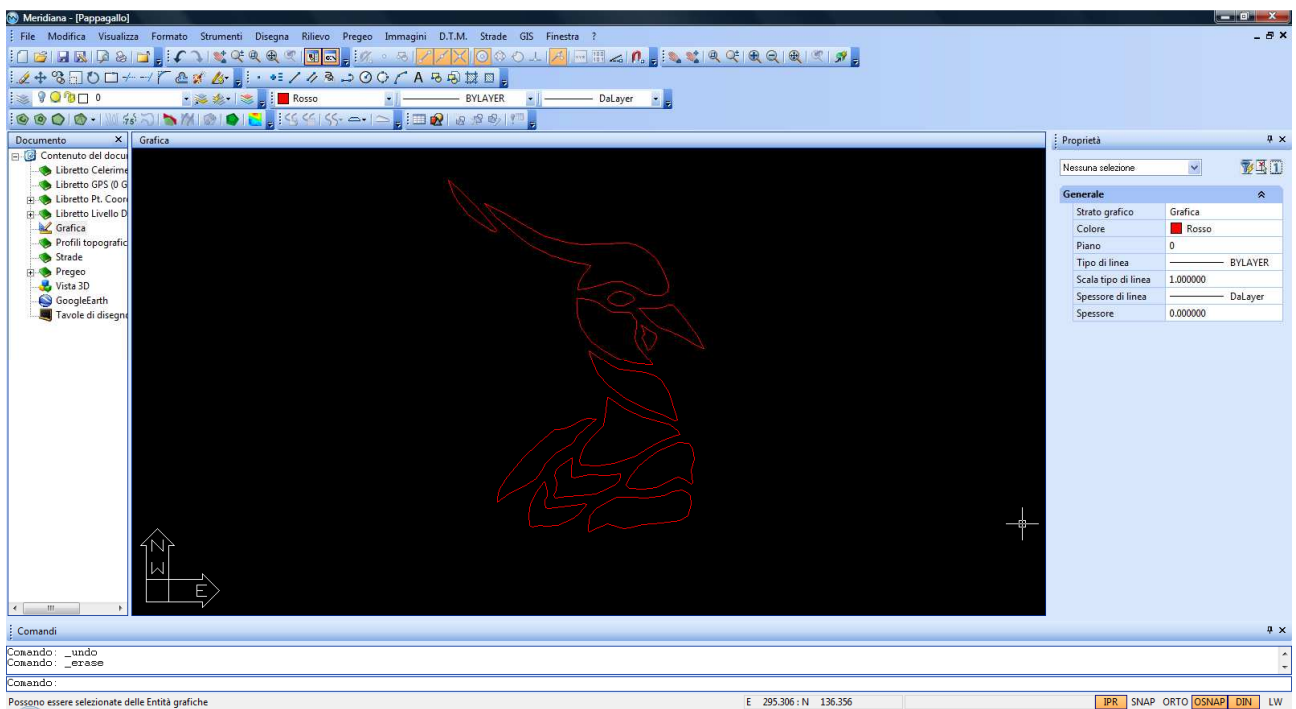
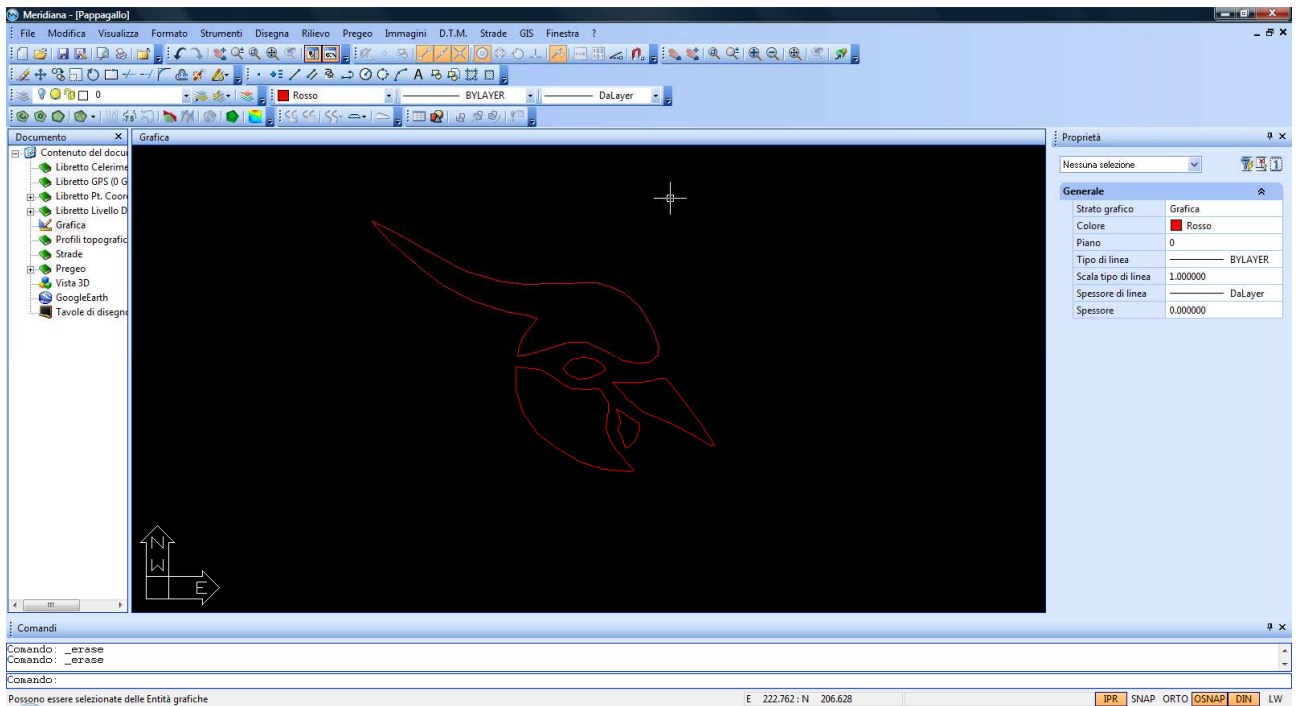
Design realization:

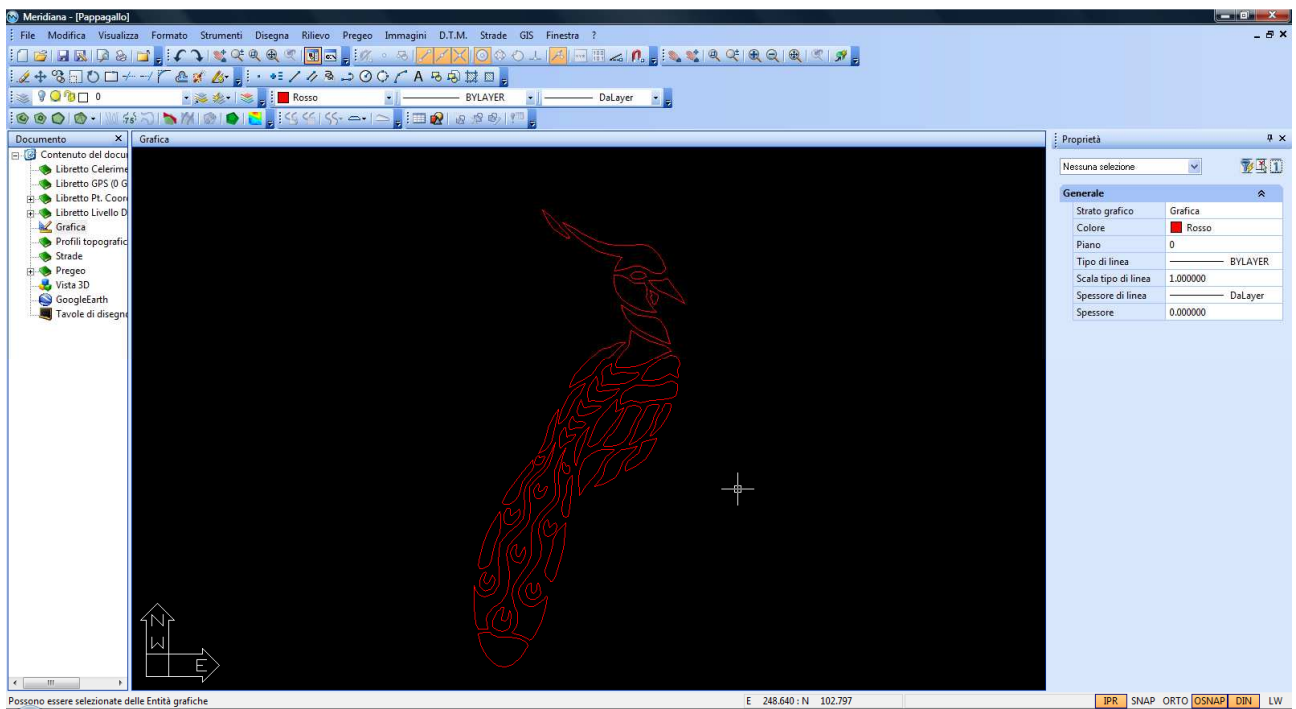
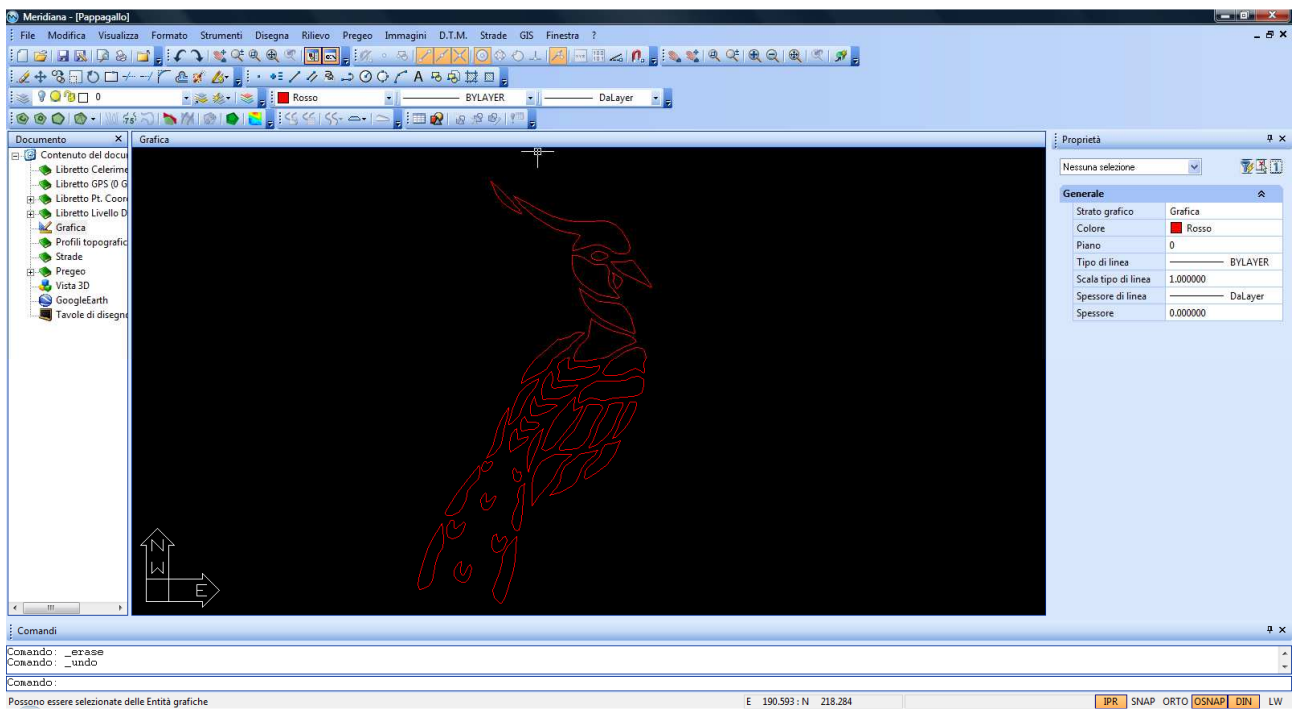
Have pity on my artistic style but I'm not a designer.

Open your CAD software:



Start drawing with the polylines:

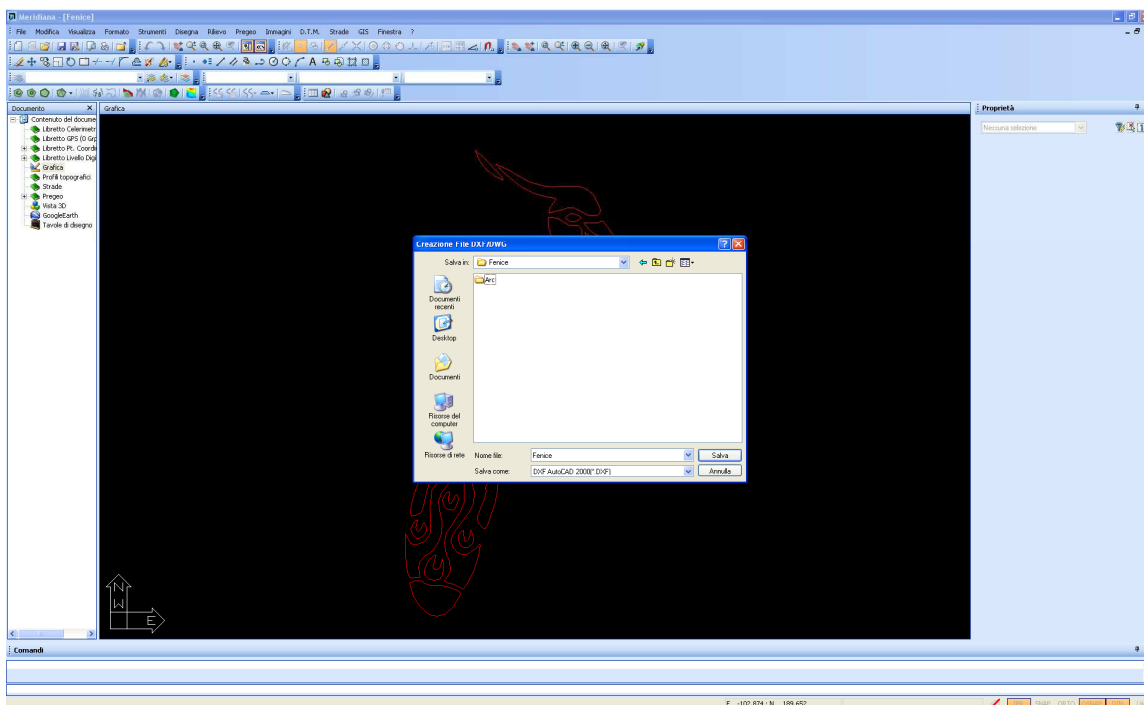
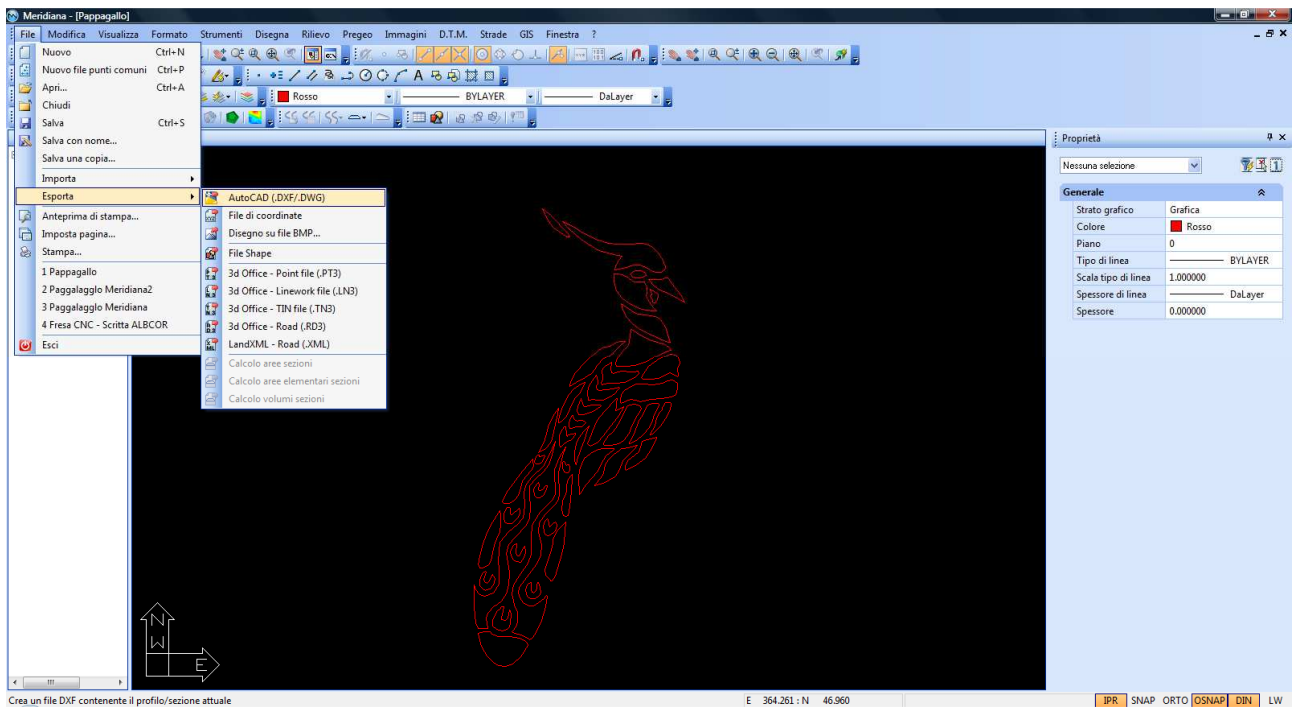




We finished our drawing.

CAD Drawing – Saving DXF file

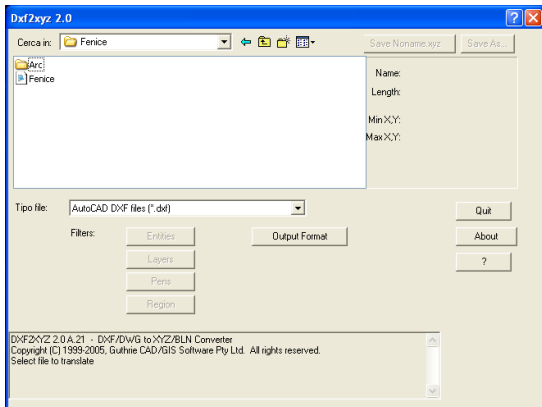
Now we proceed saving the drawing in .DXF format.



CAD Drawing – Conversion file from DXF to XYZ

Now we proceed to the conversion of the .DXF file to the format .XYZ.

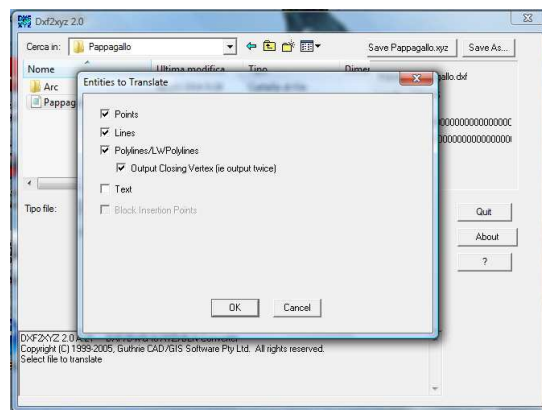
For this purpose use the “DXF2XYZ” software which is freely to download from the website.



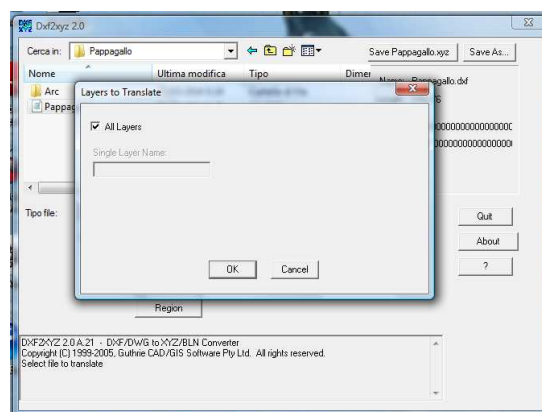
At our first work, we go to set the conversion parameters (then they will remain stored).

Now set the software as the pictures below (or, for the more experienced, according to your needs):

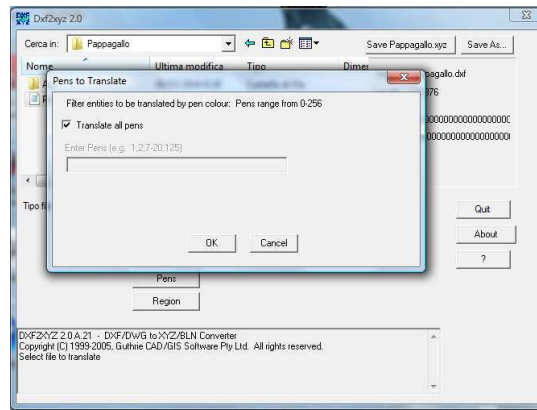
Filters - Entities:



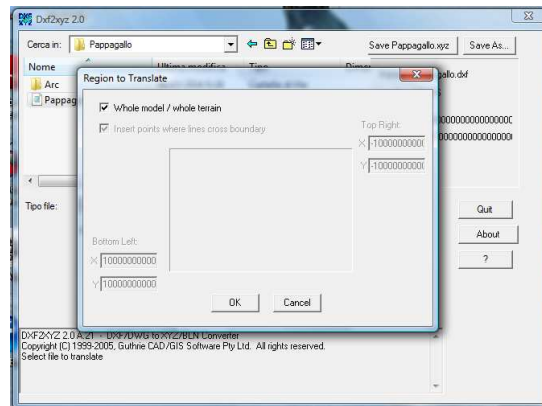
Filters - Layers:



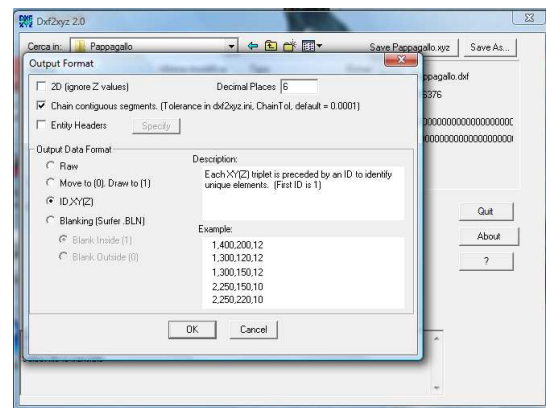
Filters - Pens:



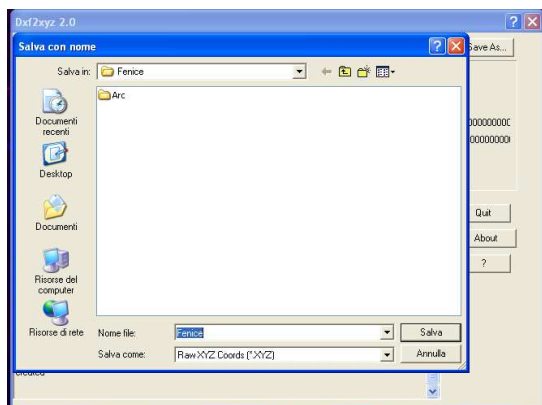
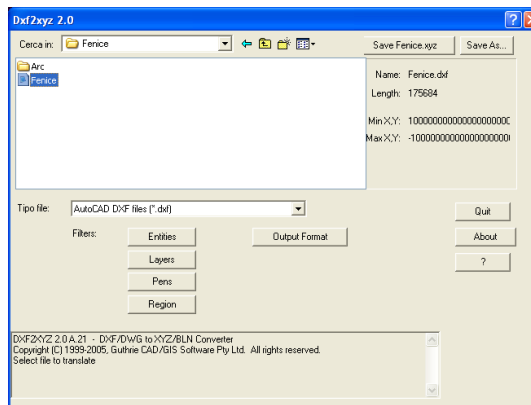
Filters - Region:



Set now the parameters for the “Output Format” of the .XYZ file:



Upload your file in .DXF format and proceed saving in .XYZ format by clicking on the “Save” button.



We can save the file directly in the “File XYZ” folder, choosing “browse folders”, or by subsequently copying from the save folder.

We generated the file of our work in .XYZ format.

Now, if we open our file “phoenix.xyz” with a text editor, we will find these data:



In the .XYZ file we can see the following:

tabulations:	the tabulations are constituted by a “,”;
first tabulation:	number of polylines; this is automatically generated (at each change of numeration, the incision stops and the subsequent begins);
second tabulation:	coordinated “X”
third tabulation:	coordinated “Y”
fourth tabulation:	coordinated “Z”

NOTE:

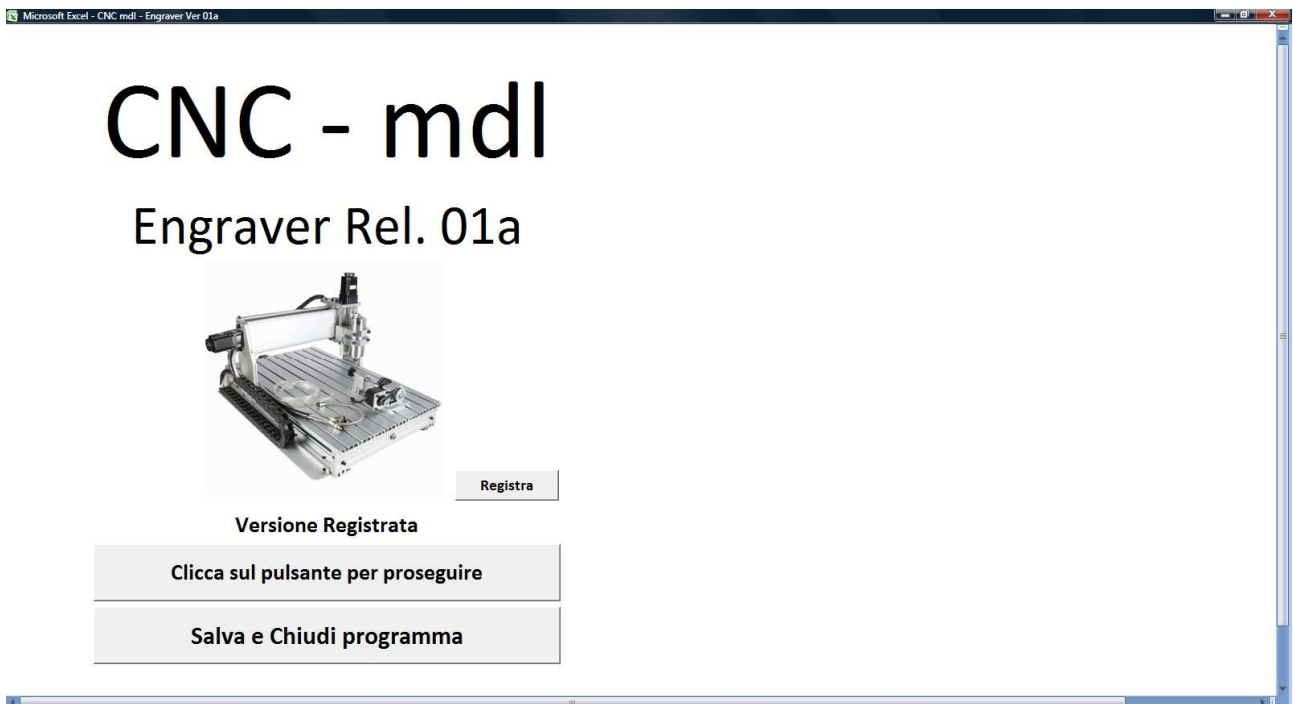
The coordinated “Z” is automatically managed and generated by the CNC mdl – Engraver Software.

To recover the data by the CNC mdl – Engraver Ver. 01a software it is necessary that the file is stored in the folder:

“CNC mdl - Engraver Ver. 01a\ File XYZ”

Preparation of the G-Code file

Open the software CNC mdl - Engraver



Click on the “continue” button



Now we have two choices:

1. incision on a plane surface (3 axes – XYZ);
2. incision on a cylindrical surface (4 axes – XYZ A).


Preparation of the G-Code file – Plane incision (3 axes)

1) Incision on a plane surface.

Insert the base data and check them all carefully:

in this case we decided to use a tablet with a thickness of 10mm and to perform an incision 0,5mm deep, taking away 0,25mm for every pass, therefore with two steps.

Microsoft Excel - CNC mdl - Engraver Ver 01a



Preparazione

Lavoro X Y Z - su Piano

Descrizione	U.M.	Dato	Esito
Quota Piano da "0" (NO SCALA)	mm	10,000	- NO fattore Scala!
Profondità di Intaglio (NO SCALA)	mm	0,500	- NO Fattore Scala!
Numero ripetizioni intagli XYZ	nr	1	
Profondità di Taglio (per Step)	mm	0,250	
Luce libera traslazione utensile	mm	1,000	
Velocità Profondità Z	F	100,000	
Velocità Intaglio	F	200,000	
Fattore di Scala X	1:X	1,000	
Fattore di Scala Y	1:X	1,000	
Fattore di Scala Z	1:X	1,000	
Traslazione Origine X	mm	0,000	
Traslazione Origine Y	mm	0,000	
Traslazione Origine Z	mm	0,000	

Descrizione	U.M.	Dato
Numero passate	nr	2
Profondità di Taglio- calcolo	mm	0,250000
Profondità Interna	mm	9,500
Lunghezza Asse "Y"	mm	10,000

Esito
Nr. Passate Ok
Profondità Ok

CNC
Codici di base

Richiama
Lavoro salvato

Ritorna a Menù

Procedi con
INSERIMENTO DATI

HOME

Now verify the “Base codes” at the beginning and end of program

Microsoft Excel - CNC mdl - Engraver Ver 01a



Parametri di base

Lavoro X Y Z - su Piano

CODICI INIZIO PROGRAMMA	
RIGA	Codice
1	G0 G49 G40 G17 G80 G50 G90
2	
3	M3 S20000
4	
5	
6	
7	
8	
9	
10	

Visualizza Codici G

Visualizza Codici M

CODICI FINE PROGRAMMA	
RIGA	Codice
1	
2	
3	
4	
5	
6	
7	
8	
9	M5
10	M30

Avanti

Ritorna

Done this let's go ahead.

We are now in the screen “Data Entry”

Microsoft Excel - CNC mdl - Engraver Ver 01a

Inserimento DATI

Lavoro X Y Z - su Piano

Salva Lavoro X-Y-Z Lavoro nr. 5

Vai alla STAMPA Vedi DISEGNO Richiama Lavoro salvato Cancella Scheda Recupera DATI da XYZA Carica lavoro da file XYZ Indietro Ritorna a Menù

Coordinate Coordinate plane mm

NR	Linea nr	X	Y	Correzione Z
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				

Percorso Utensile

Click on the button “Upload work from XYZ file”

Microsoft Excel - CNC mdl - Engraver Ver 01a

Conversione file da formato Testo

Lavoro X Y Z - su Piano

Nome del file da convertire completo di estensione

Ok, File caricato con successo

Carica File XYZ Formato: "nr,X,Y,Z" Trasferisci il dati al programma Indietro

Carica File XYZ Formato: "X,Y,Z" Ritorna a Menù


NR	Linea nr	X	Y	Variazione Z
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Type the name of the file complete with his extension (phoenix.xyz) and confirm with “enter”.

CNC mdl - Engraver Ver 01a - Microsoft Excel

Conversione file da formato Testo

Lavoro X Y Z - su Piano



Nome del file da convertire completo di estensione: Ok, File caricato con successo


NR	Linea nr	X	Y	Variazione Z		
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Click now on the button “Upload XYZ file – nr,X,Y,Z format”

CNC mdl - Engraver Ver 01a - Microsoft Excel

Conversione file da formato Testo

Lavoro X Y Z - su Piano



Nome del file da convertire completo di estensione: Ok, File caricato con successo

NR	Linea nr	X	Y	Variazione Z		
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Microsoft Excel

L'operazione potrebbe impiegare diversi minuti.

OK

Confirm.

Microsoft Excel - CNC mdl - Engraver Ver 01a			
1	32	177	0
1	33	174	0
1	33	174	0
1	34	172	0
1	34	172	0
1	37	170	0
1	37	170	0
1	39	168	0
1	39	168	0
1	42	166	0
1	41	167	0
1	42	166	0
1	42	166	0
1	42	166	0
1	42	166	0
1	42	166	0
1	42	167	0
1	42	167	0
1	42	167	0
1	41	168	0
1	41	168	0
1	40	170	0
1	40	170	0
1	37	172	0
1	37	172	0
1	35	175	0
1	35	175	0
1	33	176	0
1	32	177	0
1	32	177	0
1	32	177	0
2	40	172	0
2	42	169	0
2	47	165	0
2	48	163	0
2	54	161	0
2	58	160	0
2	61	159	0
2	62	159	0
2	62	159	0
2	60	157	0
2	60	155	0
2	60	154	0
2	61	154	0
2	64	155	0
2	66	156	0
2	69	156	0
2	72	154	0
2	74	153	0
2	76	153	0
2	77	153	0
2	78	154	0

CNC.mill - Engraver Ver 0.1a - Microsoft Excel

Conversione file da formato Testo

Lavoro X Y Z - su Piano

Nome del file da convertire completo di estensione

Fenice.xyz

Ok, File caricato con successo

Carica File XYZ

Formato: "nr,X,Y,Z"

Trasferisci il dati al programma

Indietro

Carica File XYZ

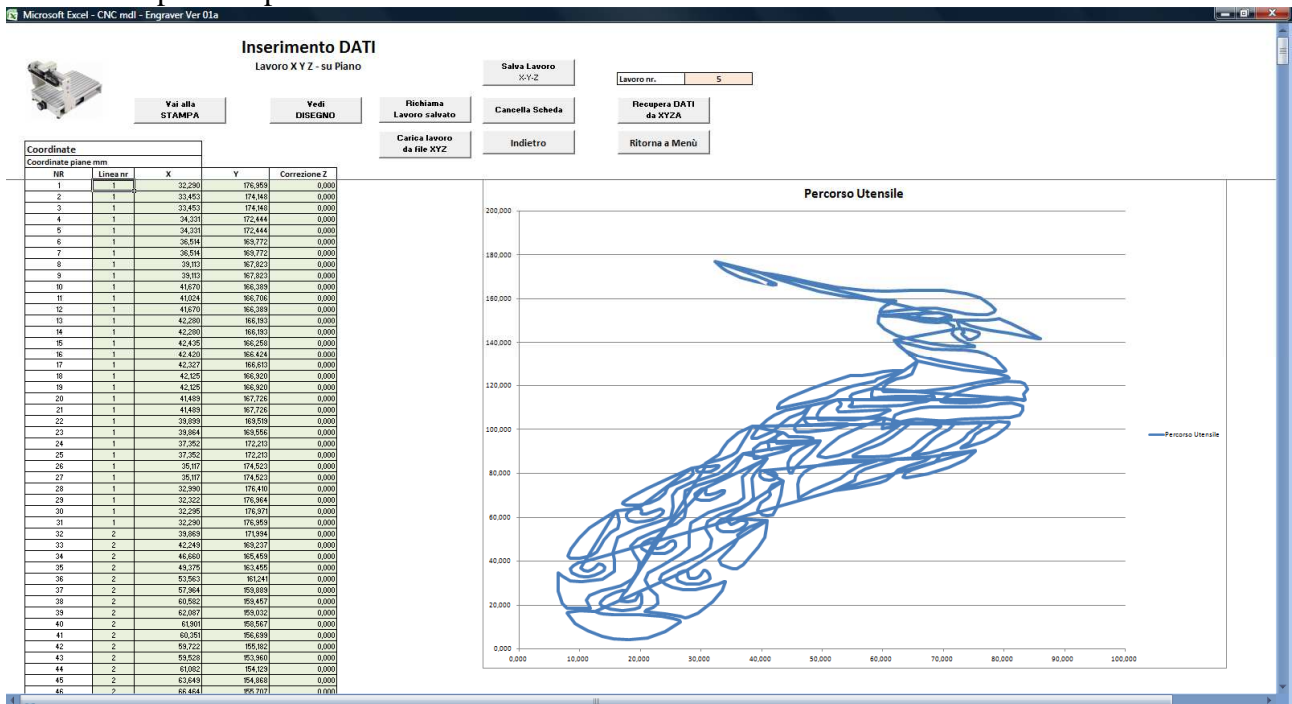
Formato: "X,Y,Z"

Ritorna a Menù

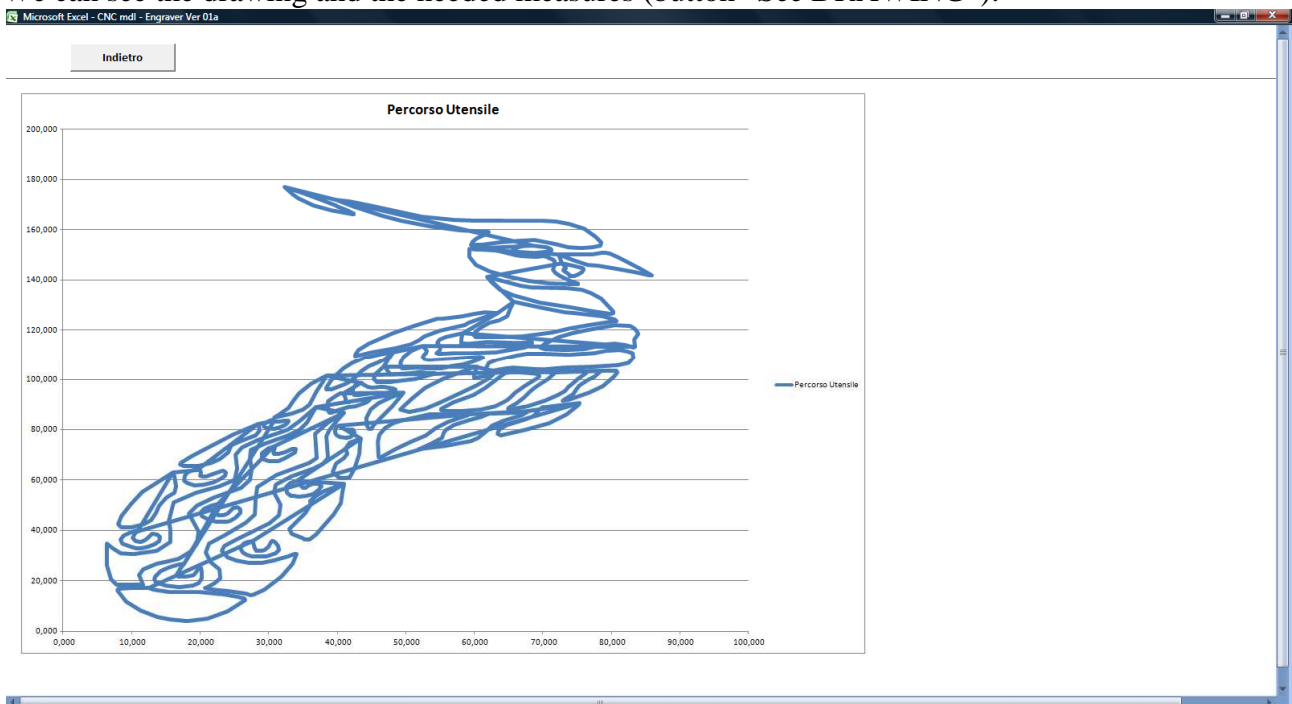
NR	Linea nr	X	Y	Variazione Z		
0						
1	1	32	177	0		
2	1	33	174	0		
3	1	33	174	0		
4	1	34	172	0		
5	1	34	172	0		
6	1	37	170	0		
7	1	37	170	0		
8	1	39	168	0		
9	1	39	168	0		
10	1	42	166	0		
11	1	41	167	0		
12	1	42	166	0		
13	1	42	166	0		
14	1	42	166	0		
15	1	42	166	0		
16	1	42	166	0		
17	1	42	167	0		
18	1	42	167	0		
19	1	42	167	0		
20	1	41	168	0		
21	1	41	168	0		
22	1	40	170	0		

The drawing will be generated automatically.

In the columns to the left is the number of the polyline associated with incision and the related coordinates point to point:



We can see the drawing and the needed measures (button “See DRAWING”):

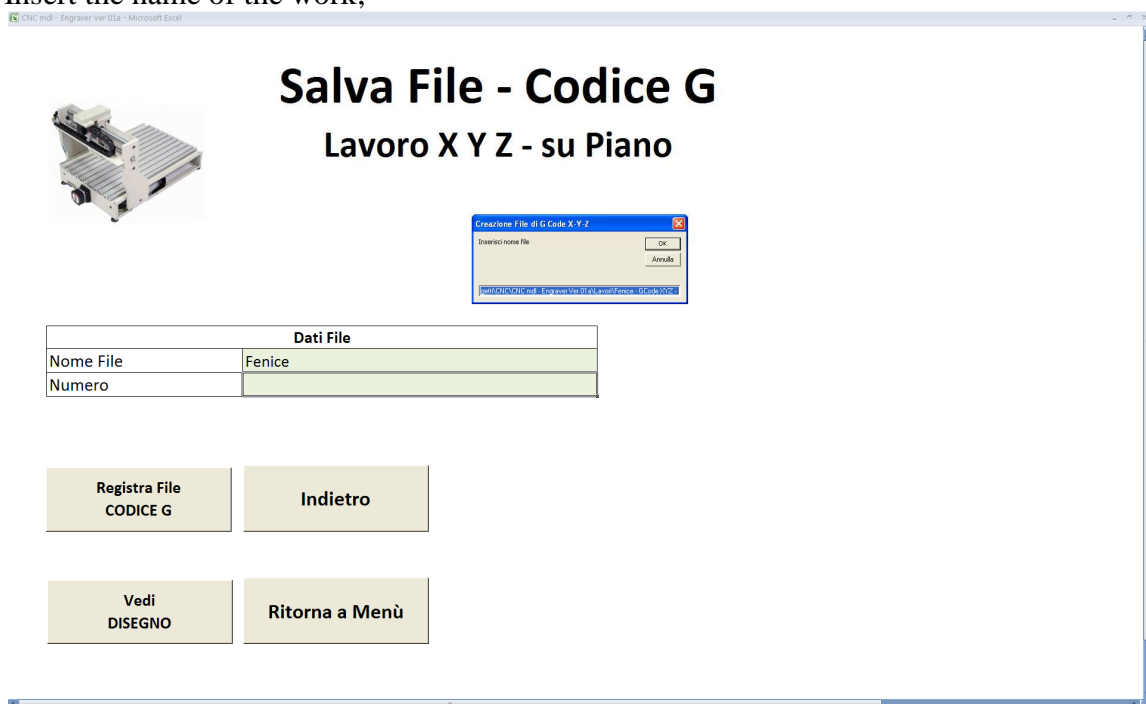


If it is needed to change measures, for example to engrave the “phoenix” on a smaller or bigger surface, it is not required a complicated remaking of the drawing or do complicated operations: you simply return to the specific menu and modify the various “Scale factor”. Then you review the drawing and check the new measures.

When this phase ended, you can proceed generating the G-Code; click on “Go to print”:



Insert the name of the work;



Click on the “Record the G-CODE file” button and confirm.

The screen confirms the creation of the file:



The G-Code file is ready and can be transferred to the CNC machine.

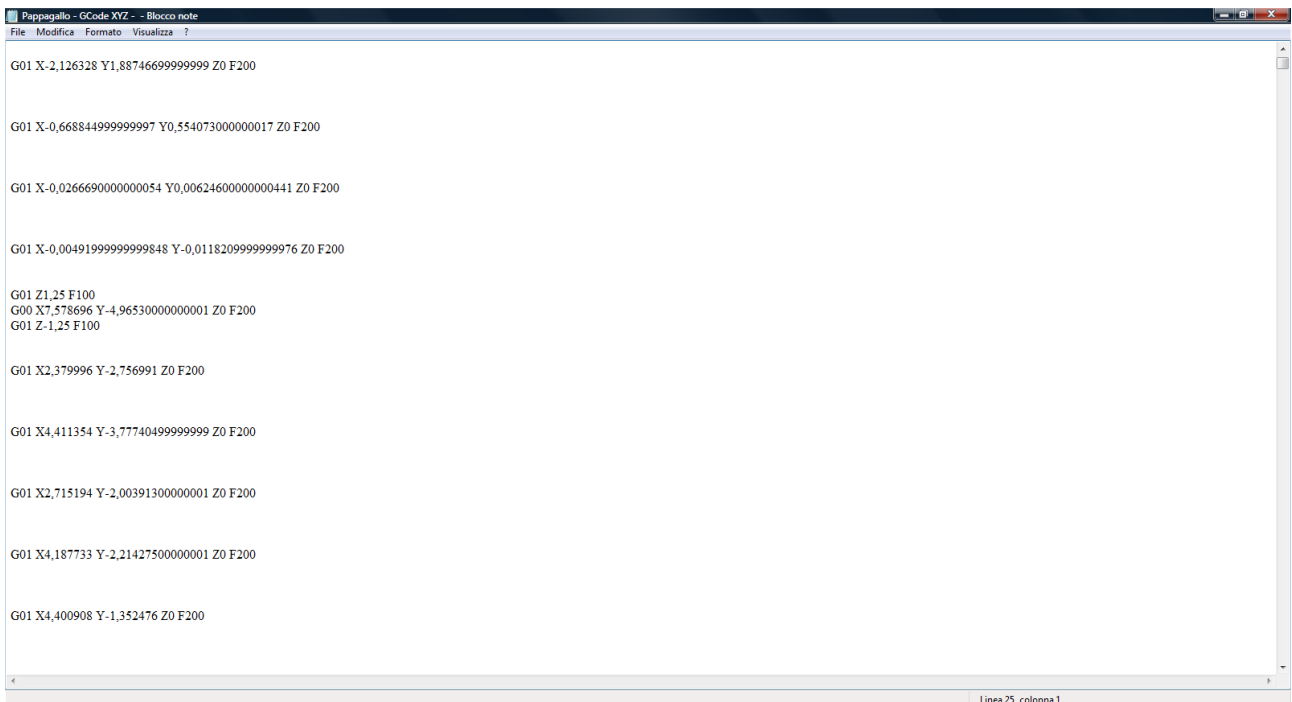
For more details let's analyze the generated G-Code file and the related instructions for the CNC:



A screenshot of a Notepad window titled "Pappagallo - GCode XYZ - - Blocco note". The window contains the following G-code instructions:

```
G0 G49 G40 G17 G80 G50 G90  
M3 S20000  
  
G00 Z11  
G00 X0 Y0  
  
M98 P0001 Q1  
  
M5  
M30  
  
O0001
```

The status bar at the bottom right indicates "Linea 1, colonna 1".



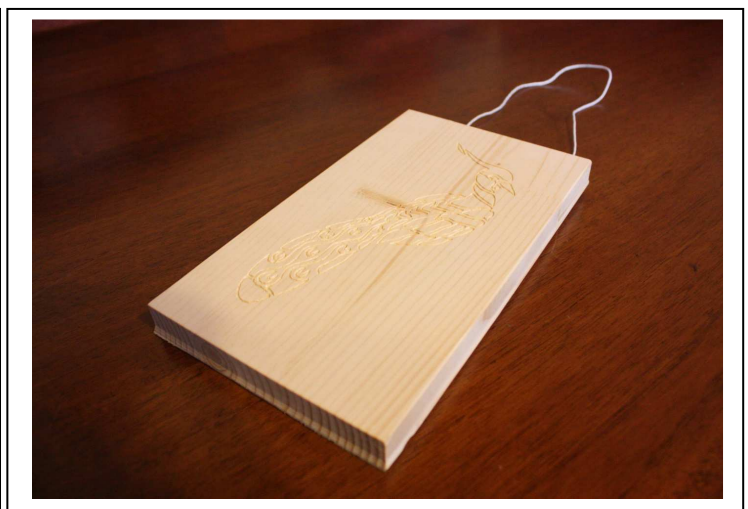
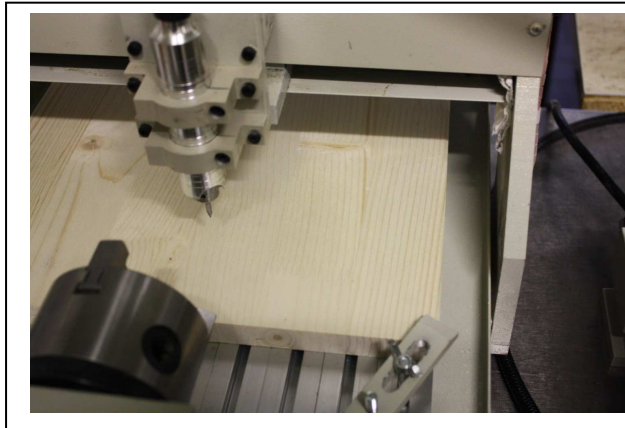
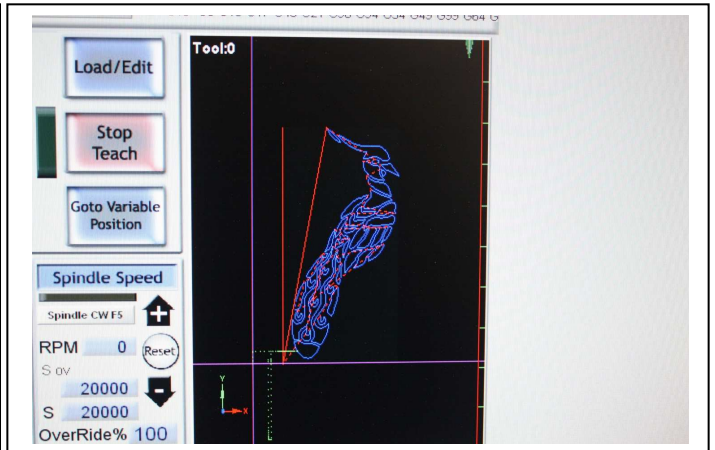
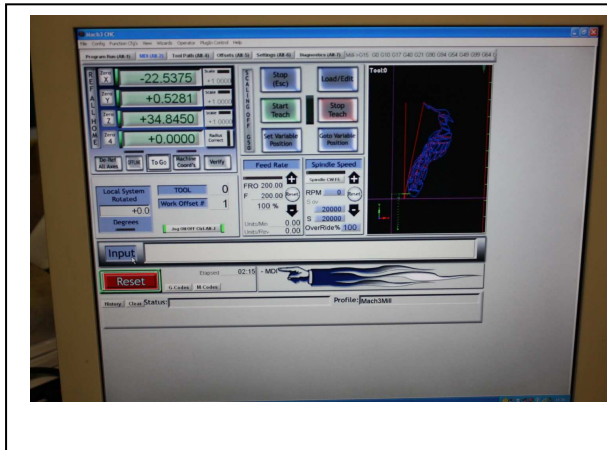
A screenshot of a Notepad window titled "Pappagallo - GCode XYZ - - Blocco note". The window contains the following G-code instructions:

```
G01 X-2,126328 Y1,8874669999999999 Z0 F200  
  
G01 X-0,6688449999999997 Y0,5540730000000017 Z0 F200  
  
G01 X-0,0266690000000054 Y0,00624600000000441 Z0 F200  
  
G01 X-0,00491999999999848 Y-0,0118209999999976 Z0 F200  
  
G01 Z1,25 F100  
G00 X7,578696 Y-4,965300000000001 Z0 F200  
G01 Z-1,25 F100  
  
G01 X2,379996 Y-2,756991 Z0 F200  
  
G01 X4,411354 Y-3,777404999999999 Z0 F200  
  
G01 X2,715194 Y-2,003913000000001 Z0 F200  
  
G01 X4,187733 Y-2,214275000000001 Z0 F200  
  
G01 X4,400908 Y-1,352476 Z0 F200
```

The status bar at the bottom right indicates "Linea 25, colonna 1".

In the G-Code file you will find 101069 lines.

The processing:




Preparation of the G-Code file – Cylindrical Incision (4 axes)

2) Incision on a cylindrical surface.

Insert the basic data and check them all carefully:

in this case we decided to use a cylindrical stick with a diameter of 35mm and to perform an incision 0,5mm deep, taking away 0,25mm for every pass, therefore with two steps.

Microsoft Excel - CNC mdl - Engraver Ver 01a



Preparazione

Lavoro X Y Z A - su Cilindro

Descrizione	U.M.	Dato	Esito
Raggio Esterno (NO SCALA)	mm	17,500	NO Fattore Scala!
Profondità di intaglio (NO SCALA)	mm	0,500	NO Fattore Scala!
Numero intagli XYZA - su Cilindro	nr	1	
Profondità di Taglio (per Step)	mm	0,250	
Luce libera traslazione utensile	mm	1,000	
Velocità Profondità Z	F	100,000	
Velocità Intaglio	F	200,000	
CNC-Sistema Gradi Asse "A"	Gradi	360,000	
Fattore di Scala X->A	1:X	1,000	
Fattore di Scala Y	1:X	1,000	
Fattore di Scala Z	1:X	1,000	
Traslazione Origine X	mm	0,000	
Traslazione Origine Y	mm	0,000	
Traslazione Origine Z	mm	0,000	
Traslazione Origine A	Gradi	0,000	

Descrizione	U.M.	Dato
Numero passate (Step)	nr	2
Profondità di Taglio- calcolato	mm	0,250000
Lunghezza Asse "Y"	mm	0,000
Raggio Interno	mm	17,000
Diametro esterno	mm	35,000000
Circonferenza Esterna	mm	109,955743
Diametro interno	mm	34,000000
Circonferenza interna	mm	106,814150
Interasse intagli	mm	109,955743
Interasse intagli	Gradi	360
Esito	Nr. Passate Ok Profondità Intaglio Ok	

CNC
Codici di base

Richiama
Lavoro salvato


Ritorna a Menù

Procedi con
INSERIMENTO DATI

HOME

Now verify the “Base codes” at the beginning and end of program.

Microsoft Excel - CNC mdl - Engraver Ver 01a



Parametri di base

Lavoro X Y Z A - su Cilindro

CODICI INIZIO PROGRAMMA	
RIGA	Codice
1	G0 G49 G40 G17 G80 G50 G90
2	
3	M3 S20000
4	
5	
6	
7	
8	
9	
10	

Visualizza Codici G

Visualizza Codici M

CODICI FINE PROGRAMMA	
RIGA	Codice
1	
2	
3	
4	
5	
6	
7	
8	
9	M5
10	M30

Avanti

Ritorna

Done this let's go ahead.

We are now in the screen “Data Entry”

Microsoft Excel - CNC mdl - Engraver Ver 01a

Inserimento DATI

Lavoro XYZ A - su Cilindro

Salva Lavoro
XYZ-A

Lavoro nr. 5

Vai alla STAMPA **Vedi DISEGNO** **Richiama Lavoro salvato** **Cancella Scheda** **Ricupera DATI da XYZ** **Ritorna a Menù**

Vedi Sviluppo DISEGNO **Carica lavoro da file XYZ** **Indietro**

Coordinate
Coordinate piano mm

NR	Linea nr	X → A	Y	Correzione Z	Correzione X	Correzione Y
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						

Percorso Utensile

Click on the button “Upload work from XYZ file”

Microsoft Excel - CNC mdl - Engraver Ver 01a

Conversione file da formato Testo

Lavoro XYZ A - su Cilindro

Nome del file da convertire completo di estensione

Ok, File caricato con successo

Carica File XYZ
Formato: "nr,XY,Z"

Trasferisci i dati al programma **Indietro**

Carica File XYZ
Formato: "X,Y,Z"

Ritorna a Menù

NR	Linea nr	X → A	Y	Variazione Z	Traslazione X	Traslazione Y
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Type the name of the file complete with his extension (phoenix.xyz) and confirm with “enter”.

CNC mdl - Engraver Ver 01a - Microsoft Excel

Conversione file da formato Testo

Lavoro X Y Z A - su Cilindro

Nome del file da convertire completo di estensione Ok, File caricato con successo

NR	Linea nr	X -> A	Y	Variazione Z	Traslazione X	Traslazione Y
0						
1	1	32	177	0		
2	1	33	174	0		
3	1	33	174	0		
4	1	34	172	0		
5	1	34	172	0		
6	1	37	170	0		
7	1	37	170	0		
8	1	39	168	0		
9	1	39	168	0		
10	1	42	166	0		
11	1	41	167	0		
12	1	42	166	0		
13	1	42	166	0		
14	1	42	166	0		
15	1	42	166	0		
16	1	42	166	0		
17	1	42	167	0		
18	1	42	167	0		
19	1	42	167	0		
20	1	41	168	0		
21	1	41	168	0		
22	1	40	170	0		

Click now on the button “Upload XYZ file – nr,X,Y,Z format”

CNC mdl - Engraver Ver 01a - Microsoft Excel

Conversione file da formato Testo

Lavoro X Y Z A - su Cilindro

Nome del file da convertire completo di estensione Ok, File caricato con successo

NR	Linea nr	X -> A	Y	Variazione Z	Traslazione X	Traslazione Y
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Microsoft Excel

L'operazione potrebbe impiegare diversi minuti.

OK

Confirm.

[illegible]

CNC mill - Engraver Ver 0.1a - Microsoft Excel

Conversione file da formato Testo

Lavoro X Y Z A - su Cilindro

Nome del file da convertire completo di estensione Fenice.XYZ

Ok, File caricato con successo

Carica File XYZ
Formato: "nr,X,Y,Z"

Trasferisci il dati al programma

Indietro

Carica File XYZ
Formato: "X,Y,Z"

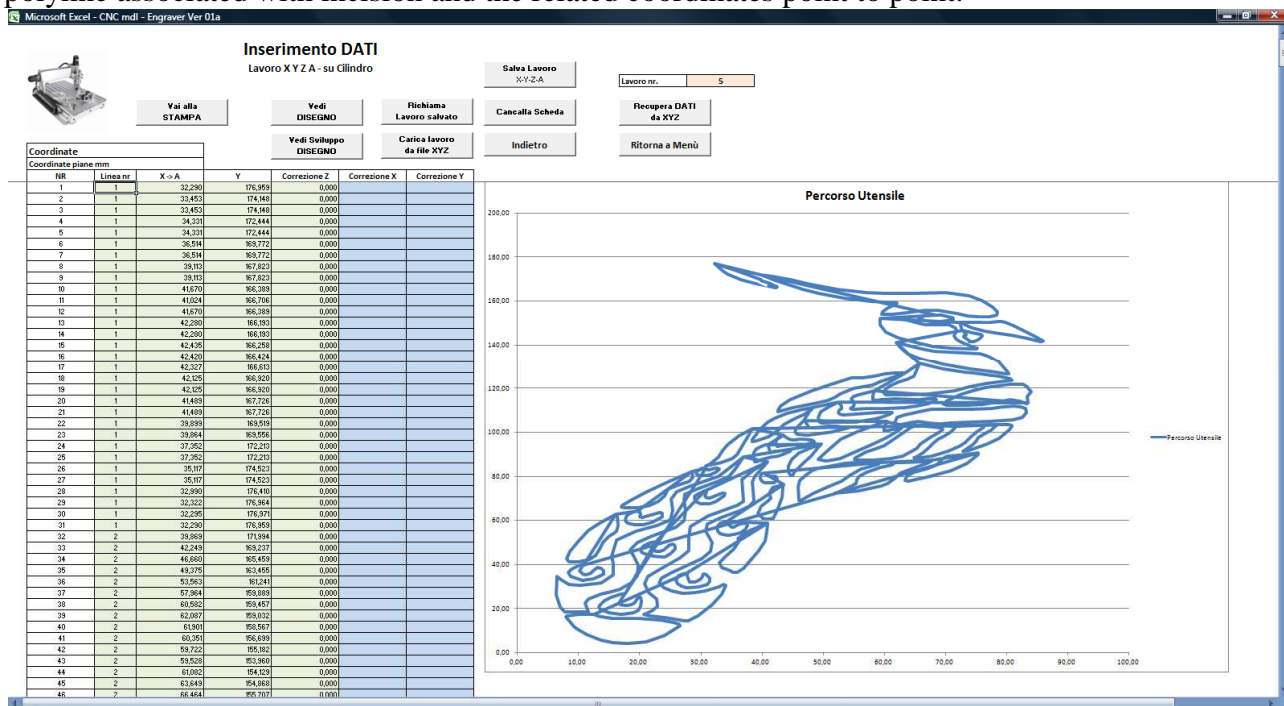
Ritorna a Menù

NR	Linea nr	X -> A	Y	Variazione Z	Traslazione X	Traslazione Y
0						
1	1	32	177	0		
2	1	33	174	0		
3	1	33	174	0		
4	1	34	172	0		
5	1	34	172	0		
6	1	37	170	0		
7	1	37	170	0		
8	1	39	168	0		
9	1	39	168	0		
10	1	42	166	0		
11	1	41	167	0		
12	1	42	166	0		
13	1	42	166	0		
14	1	42	166	0		
15	1	42	166	0		
16	1	42	166	0		
17	1	42	167	0		
18	1	42	167	0		
19	1	42	167	0		
20	1	41	168	0		
21	1	41	168	0		
22	1	40	170	0		

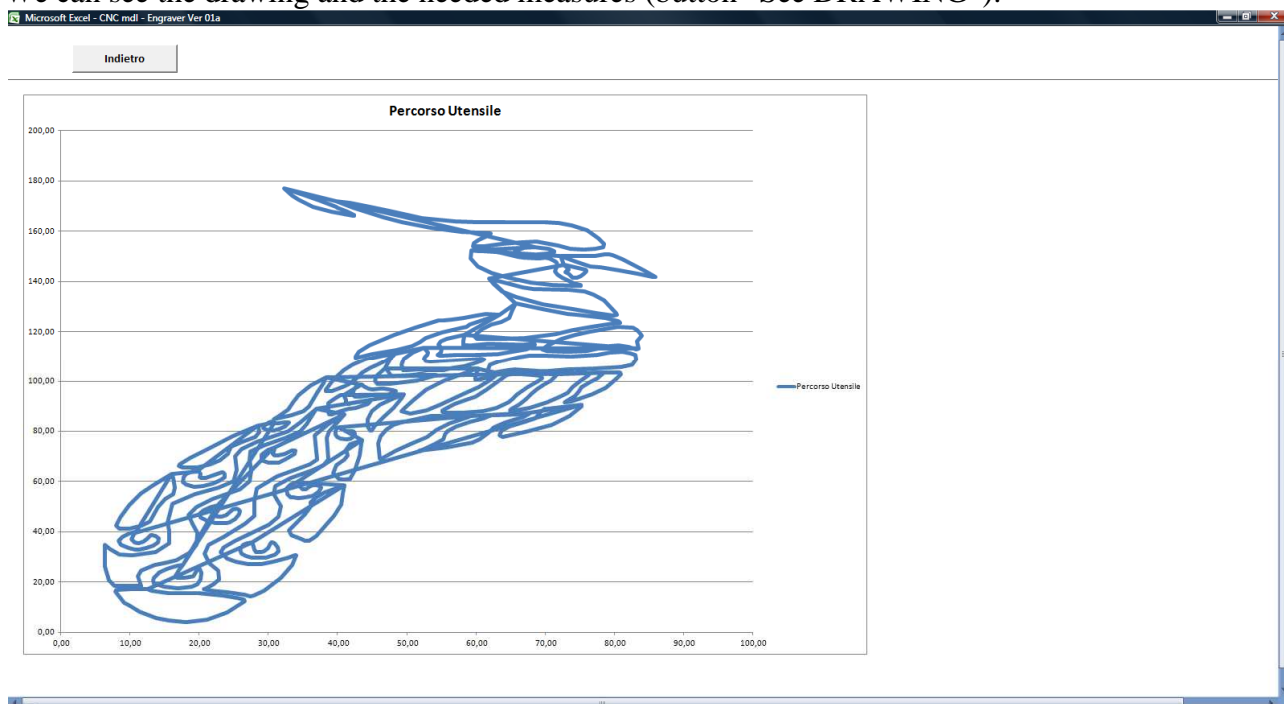
www.cncmdl.altervista.org

CNC mdl

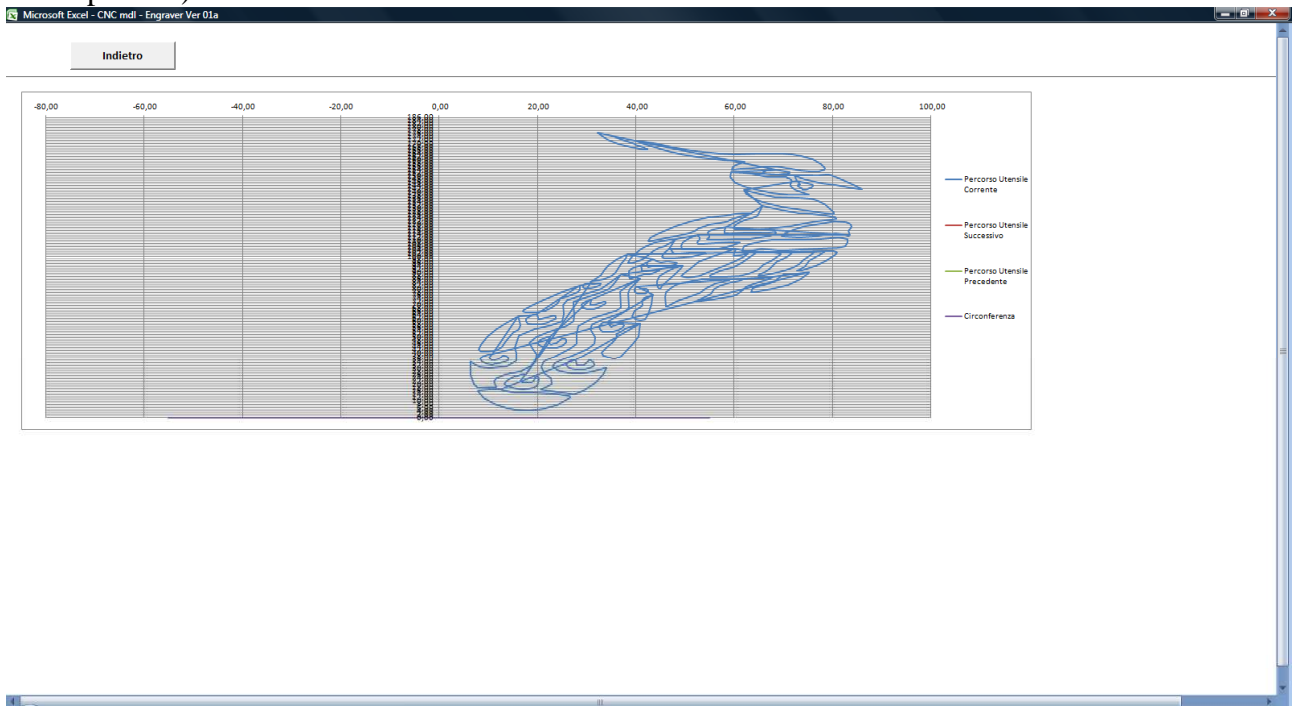
The drawing will be generated automatically; in the columns to the left is the number of the polyline associated with incision and the related coordinates point to point:



We can see the drawing and the needed measures (button “See DRAWING”):



We can also see the drawing development and the measures needed (button “See DRAWING development”):



The purple line at bottom (at zero of the “X” axis) reports the linear development of the circumference of the cylinder in the process.

If it is needed to change measures, for example to engrave the “phoenix” on a smaller or bigger surface, it is not required a complicated remaking of the drawing or do complicated operations: you simply return to the specific menu and modify the various “Scale factor”.

We can also translate the incision compared to the zero point of origin.

In our case, for instance, we want to “rotate” the incision to move the axis “zero” of the drawing:

Let’s return to the menu:

Descrizione	U.M.	Dato	Unità
Raggio Esterno (NO SCALA)	mm	17,500	NO Fattore Scala
Profondità di Intaglio (NO SCALA)	mm	0,500	NO Fattore Scala
Numero intagli XYZA - su Cilindro	nr	1	
Profondità di Taglio (per Step)	mm	0,250	
Luce libera traslazione utensile	mm	1,000	
Velocità Profondità Z	F	100,000	
Velocità Intaglio	F	200,000	
CNC-Sistema Gradi Asse "A"	Gradi	360,000	
Fattore di Scala X-A	1:X	1,000	
Fattore di Scala X	1:X	1,000	
Fattore di Scala Y	1:X	1,000	
Fattore di Scala Z	1:X	1,000	
Traslazione Origine X	mm	0,000	
Traslazione Origine Y	mm	0,000	
Traslazione Origine Z	mm	0,000	
Traslazione Origine A	Gradi	-180,000	

Descrizione	U.M.	Dato	Unità
Numero passate (Steep)	nr	2	
Profondità di Taglio- calcolato	mm	0,250000	
Lunghezza Asse "Y"	mm	176,971	
Raggio Interno	mm	17,000	
Diametro esterno	mm	35,000000	
Circonferenza Esterna	mm	109,955743	
Diametro interno	mm	34,000000	
Circonferenza Interna	mm	106,814150	
Interasse intagli	mm	109,955743	
Interasse intagli	Gradi	360	
Esito		Nr. Passate Ok	
		Profondità Intaglio Ok	

CNC
Codici di base

Richiama
Lavoro salvato

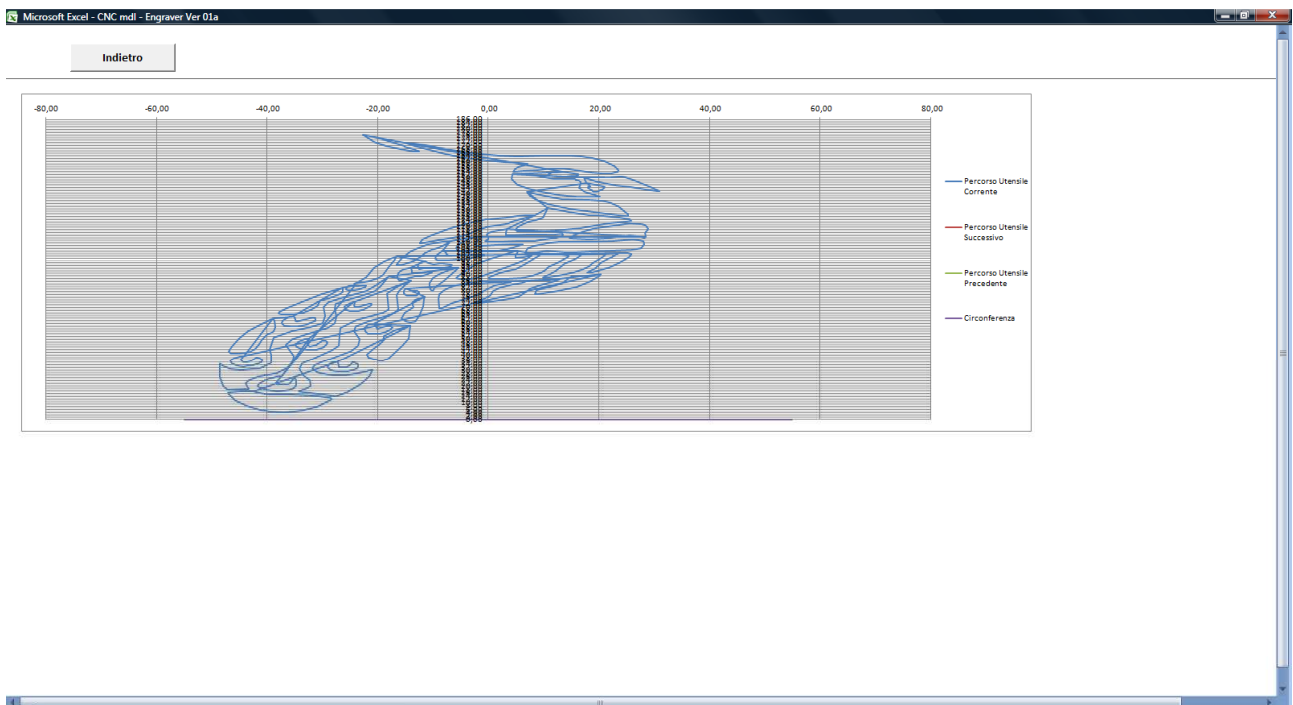
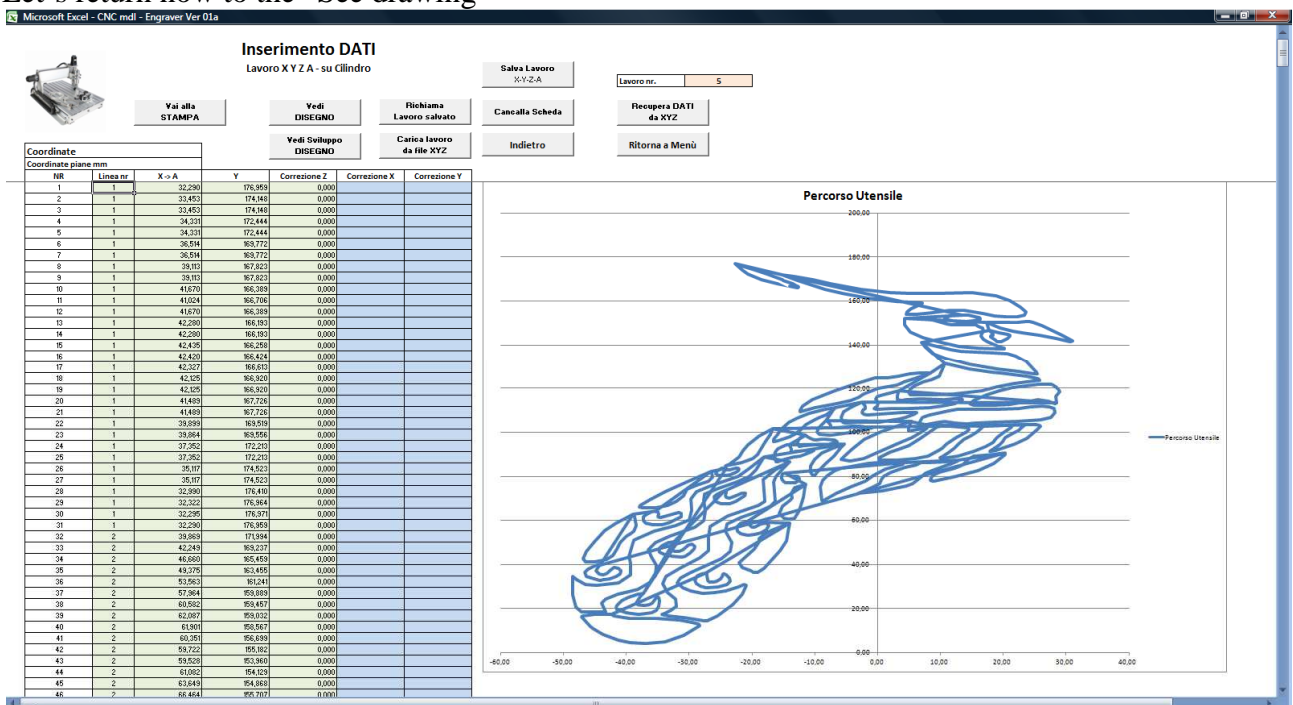
Ritorna a Menù

Procedi con
INSERIMENTO DATI

HOME

Type on “Translation Origin A” the data “-180”: this means that we rotate the origin of the A-axis of 180 degrees (half a lap).

Let's return now to the “See drawing”




Review the drawing and check the new measures.

We can see that the drawing is rotated compared to the X-axis.

A glance at the purple line of the circumference development allows us to understand that the drawing fits perfectly in the development.

When this phase ended, you can proceed generating the G-Code; click on “Go to print”:

CNC mdl - Engraver Ver 01a - Microsoft Excel



Salva File - Codice G

Lavoro X Y Z A - su Cilindro

Dati File	
Nome File	Fenice
Numero	

Registra File
CODICE G


Indietro

Vedi
DISEGNO

Ritorna a Menù

Insert the name of the work.

CNC mdl - Engraver Ver 01a - Microsoft Excel



Salva File - Codice G

Lavoro X Y Z A - su Cilindro

Dati File	
Nome File	Fenice
Numero	

Creazione File di G Code X.Y.Z.A

Inserisci nome file

OK

Annulla

\\cnc\CNC mdl - Engraver Ver 01a\cnc\Fenice - GCode.XYZ.A

Registra File
CODICE G

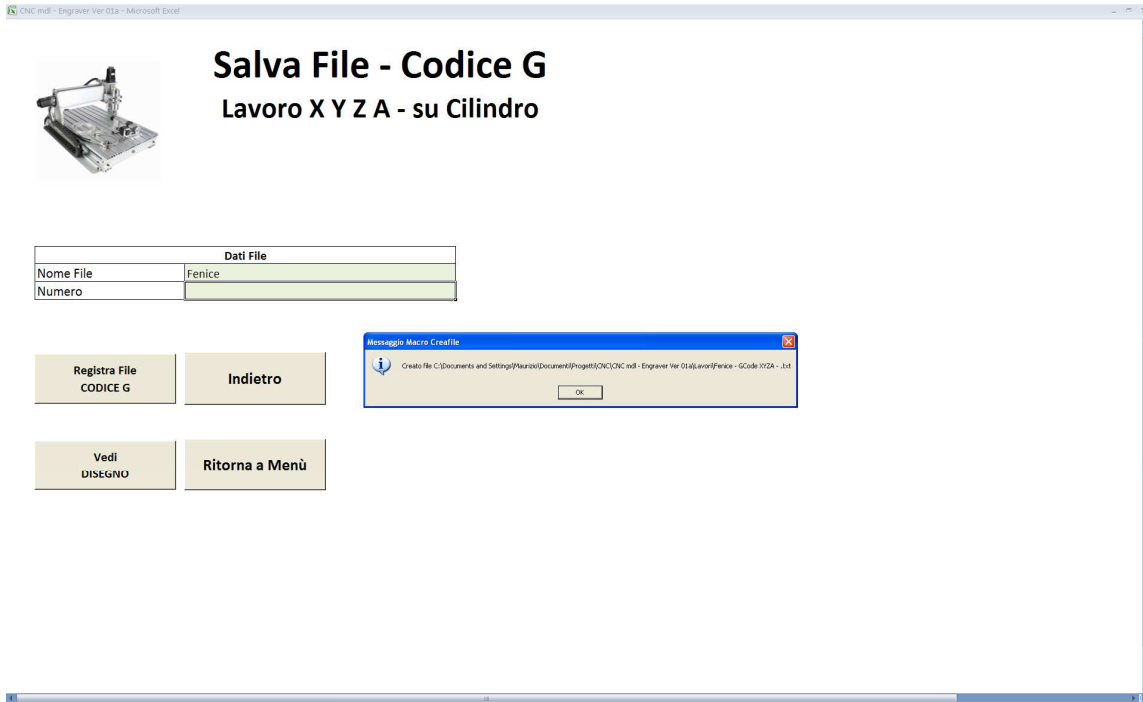
Indietro

Vedi
DISEGNO

Ritorna a Menù


Click on the “Record the G-Code file” button and confirm.

The screen confirms the creation of the file:



The G-Code file is ready and can be transferred to the CNC machine.

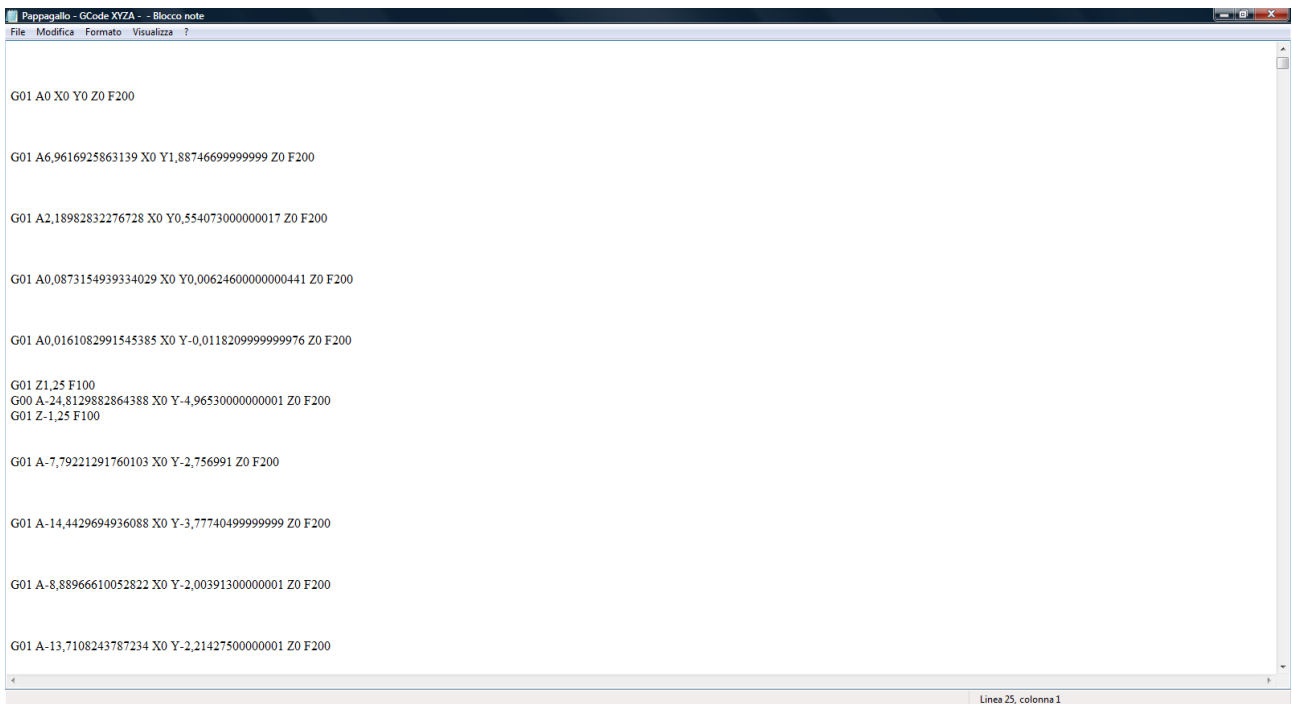
For more details let's analyze the generated G-Code file and the related instructions for the CNC:



A screenshot of a Notepad window titled "Pappagallo - GCode XYZA - - Blocco note". The window contains the following G-code instructions:

```
G0 G49 G40 G17 G80 G50 G90  
M3 S20000  
  
G00 Z18.5  
G00 X0 Y0 A-180  
  
M98 P0001 Q1  
  
M5  
M30  
  
O0001
```

The status bar at the bottom right indicates "Linea 1, colonna 1".



A screenshot of a Notepad window titled "Pappagallo - GCode XYZA - - Blocco note". The window contains the following G-code instructions:

```
G01 A0 X0 Y0 Z0 F200  
  
G01 A6,9616925863139 X0 Y1,887466999999999 Z0 F200  
  
G01 A2,18982832276728 X0 Y0,5540730000000017 Z0 F200  
  
G01 A0,0873154939334029 X0 Y0,00624600000000441 Z0 F200  
  
G01 A0,0161082991545385 X0 Y-0,0118209999999976 Z0 F200  
  
G01 Z1,25 F100  
G00 A-24,8129882864388 X0 Y-4,965300000000001 Z0 F200  
G01 Z-1,25 F100  
  
G01 A-7,79221291760103 X0 Y-2,756991 Z0 F200  
  
G01 A-14,4429694936088 X0 Y-3,777404999999999 Z0 F200  
  
G01 A-8,88966610052822 X0 Y-2,003913000000001 Z0 F200  
  
G01 A-13,7108243787234 X0 Y-2,214275000000001 Z0 F200
```

The status bar at the bottom right indicates "Linea 25, colonna 1".

In the G-Code file you will find 101069 lines.

The processing:



Good work and, most of all, enjoy!
Maurizio De Luca.

Notes: